REMARKS

Claims 7, 9, 11 and 13 are pending in this application. By this Amendment, claims 7 and 11 are amended and claims 10 and 14 are canceled. Support for the amendments to the claims may be found, for example, in the original claims and in the specification at page 10, line 23 - page 11, line 9, page 7, lines 7-20 and page 16, line 2 - page 17, line 12. No new matter is added.

In view of the foregoing amendments and following remarks, reconsideration and allowance are respectfully requested.

I. Interview

The courtesies extended to Applicants' representative by Examiner Gugliotta and Supervisor Chaney at the interviews held July 30, 2008, and August 21, 2008, are appreciated. The reasons presented at the interview as warranting favorable action are incorporated into the remarks below and constitute Applicants' record of the interview.

II. Double Patenting

The Office Action provisionally rejects claims 7, 9-11, 13 and 14 on the ground of non-statutory double patenting over claims 9-16 of Copending Application No. 10/531,578. By this Amendment, claims 10 and 14 are canceled, rendering their rejection moot. As to the remaining claims, Applicants respectfully traverse the rejection.

Because Copending Application No. 10/531,578 has not issued, filing a Terminal Disclaimer to obviate the provisional double patenting rejection is premature. See MPEP §706.02(k). Applicants respectfully request abeyance of a double patenting rejection.

III. Claim Objections Under 35 U.S.C. §132(a)

A. Lower End Point of One

The Office Action objects to the previous amendments to claims 1 and 11 under 35 U.S.C. §132(a) as adding new matter.[1] Specifically, the Office Action asserts that there is no support for amended claims 1 and 11 to have a lower end point of one part by mass of the alkaline metal source and that such an amendment teaches away from Applicants' invention. Applicants respectfully traverse the objection.

Without conceding the propriety of the rejection, Applicants amend claims 7 and 11 to recite "wherein the clay contains 0.01-10 parts by mass." Support for the amendment may be found, for example, in the specification at page 10, line 23 - page 11, line 9. Accordingly, reconsideration and withdrawal of the objection are respectfully requested.

B. Potassium Hydroxide and Sodium Hydroxide

The Office Action objects to the previous amendments to claims 1 and 11 under 35 U.S.C. §132(a) as adding new matter.[1] Specifically, the Office Action asserts that there is no support in the disclosure for the recitation "wherein the alkaline metal source is selected from the group consisting of potassium hydroxide and sodium hydroxide." Applicants respectfully traverse the objection.

An "alkali metal source is selected from the group consisting of potassium hydroxide and sodium hydroxide" is at least implicitly supported by the specification. Specifically, examples 3, 4 and 6, illustrate the use of potassium hydroxide or sodium hydroxide as a source of alkali metal. See specification, page 17, lines 2-14. In addition, Table 1 of the

[1] Applicants assume the Office Action intended to object to claim 7 instead of claim 1, as claim 1 was previously canceled. Accordingly, Applicants' response is based on this assumption.

specification further illustrates the use of both potassium hydroxide and sodium hydroxide as a source of alkali metal. See specification, page 21. Furthermore, page 7, lines 11-17, states:

> When the alkali metal source is dissolved in a water content in the clay, the source forms hydroxide, and reacts with silica unavoidably existing on the surface of a non-oxide ceramic containing silicon to form alkali silicate glass (water glass) (see the following reaction formula (1)).
>
> $$2KOH+SiO_2 \rightarrow K_2O \cdot SiO_2+H_2O \ldots (1)$$

Thus, an "alkali metal source selected from the group consisting of potassium hydroxide and sodium hydroxide" is at least implicitly supported by the original disclosure. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

IV. Claim Rejections Under 35 U.S.C. §103(a)

A. Yamamoto, Kahlenberg and Noda

The Office Action rejects claims 7, 9-11, 13 and 14 under 35 U.S.C. §103(a) over U.S. Patent No. 6,716,512 to Yamamoto et al. (hereinafter "Yamamoto") in view of "Solutions of Silicates of the Alkalies," Chemical News, July 15, 1898, by Kahlenberg et al. (hereinafter "Kahlenberg") and U.S. Patent No. 7,041,358 to Noda et al. (hereinafter "Noda"). By this Amendment, claims 10 and 14 are canceled, rendering their rejection moot. As to the remaining claims, Applicants respectfully traverse the rejection.

Without conceding the propriety of the rejection, independent claim 7 is amended to more clearly recite various novel features of the claimed invention, with particular attention to the Examiner's comments. Specifically, independent claims 7 and 11 are amended to recite in-part (emphasis added):

> Claim 7:
> adding and kneading at least an aggregate raw material, water, an organic binder, a pore-forming agent, and an alkali metal source to obtain clay, the aggregate raw material comprising metal silicon and/or a non-oxide ceramic containing silicon;
> forming the clay into a honeycomb formed body having a plurality of cells as passages for fluid;

drying the honeycomb formed body

Claim 11:
wherein the clay that forms the honeycomb formed body contains .01 to 10 parts by mass of the alkali metal source

It is believed that claims 7 and 11 distinguishes over the applied references for at least the reasons presented below.

The Office Action recognizes that neither Yamamoto or Kahlenberg disclose the concentration range of alkali metal source in the honeycomb structure as recited in claims 7 and 11. See Office Action, page 6, number 14. Additionally, neither Yamamoto nor Kahlenberg expressly teach the adding of potassium hydroxide or sodium hydroxide raw material in the ceramic honeycomb structure as recited in claim 7, rather than the "*in-situ*" formation of potassium hydroxide or sodium hydroxide that may occur through the reaction of other raw materials.

Regarding Noda, the Office Action fails to address why Noda is being cited in this rejection. Thus, the rejection is improper because the Office Action fails to provide a clear articulation of the rejection. MPEP § 2143 states that "[t]he key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit" (emphasis added). The Office Action has not made such a clear articulation, and must do so in order to continue to support the claim rejections.[2]

Therefore, independent claims 7 and 11 would not have been rendered obvious because Yamamoto, Kahlenberg and Noda, considered either separately or combined, fail to

[2] To the extent that any such clear articulation or adequate reasoning for the obviousness rejections is included in a subsequent Office Action, such subsequent Office Action should be made non-Final.

teach or suggest every feature of independent claims 7 and 11. Claims 9 and 13 depend from claim 7 and 11, respectively, and, thus, also would not have been rendered obvious over Yamamoto, Kahlenberg, and Noda. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

B. Yamamoto, Kahlenberg and Stobbe

The Office Action rejects claims 7, 9-11, 13 and 14 under 35 U.S.C. §103(a) over Yamamoto in view of Kahlenberg and in further view of U.S. Patent No. 7,179,430 to Stobbe et al. (hereinafter "Stobbe"). By this Amendment, claims 10 and 14 are canceled, rendering their rejection moot. As to the remaining claims, Applicants respectfully traverse the rejection.

As discussed above, neither Yamamoto nor Kahlenberg, when considered separately or combined, teach or suggest the features of amended claims 7 and 11. Stobbe does not disclose or mention KOH or NaOH, much less the recited alkali metal concentration (claims 7 and 11) or a step of adding of KOH or NaOH raw material as recited in claim 7 and, thus, does not cure the deficiencies of Yamamoto and Kahlenberg with respect to claims 7 or 11. Therefore, Yamamoto, Kahlenberg, and Stobbe, considered either separately or combined, fail to teach or suggest every feature of claims 7 and 11.

For at least the reasons discussed above, claims 7 and 11 would not have been rendered obvious by Yamamoto, Kahlenberg and Stobbe. Claims 9 and 13 depend from claims 7 and 11, respectively, and, thus, also would not have been rendered obvious by Yamamoto, Kahlenberg and Stobbe. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

C. **Yamamoto, Kahlenberg and Noda**

The Office Action rejects claims 7 and 11 under 35 U.S.C. §103(a) as being unpatentable over Yamamoto in view of Kahlenberg in further view of Noda. Applicants respectfully traverse the rejection.

As discussed above, by this amendment claims 7 and 11 are amended to recite in-part (emphasis added):

> Claim 7:
> forming the clay into a honeycomb formed body having a plurality of cells as passages for fluid;
>
> Claim 11:
> wherein the clay that forms the honeycomb formed body contains .01 to 10 parts by mass of the alkali metal source....

As discussed above, neither Yamamoto nor Kahlenberg, when considered separately or combined, teach or suggest the features of amended claims 7 and 11. Despite its alleged teachings, Noda does not cure the deficiencies of Yamamoto and Kahlenberg with respect to claims 7 or 11.

Noda discloses materials capable of protecting the end portions of the honeycomb structure from erosion, and does not use these materials throughout the entire honeycomb body as required by claims 7 and 11. See Noda, col. 5 lines 26-48, reproduced in part below for convenience (emphasis added):

> The important features of a second aspect of the present invention are as follows: the end portions 21 of the partition walls in the honeycomb structure are reinforced with a reinforcing material; and the reinforcing material is contained in from 5 to 25 parts by mass, more preferably from 10 to 20 parts by mass in relation to 100 parts by mass of the honeycomb structure before reinforcement in the reinforcement portion, namely, the end portions 22 of the partition walls....The preferable range of the reinforcing material is from 0.5 to 10 parts by mass when the total mass of the honeycomb structure before reinforcement is taken to be 100 parts by mass.

Clearly, the reinforced material is only used in the end portions and not over the entire honeycomb structure.

Furthermore, Noda does not disclose an alkali metal source. Instead, Noda discloses a composite oxide or numerous other materials for use as a raw material. See Noda, col. 8, lines 45-51, reproduced below for convenience:

> In the present invention, it is preferable to use, as a reinforcing raw material, a substance which contains P, Zr, Si, Al, and Ti; phosphoric acid, aluminum biphosphate, a zirconia sol, a silica sol, a composite oxide composed of silica and an alkali metal, an alumina sol, and a titania sol are suitably used in addition to cordierite scrap powder, talc, alumina, and kaoline.

Thus, Yamamoto, Kahlenberg and Noda, considered either separately or combined, fail to teach or suggest every feature of independent claims 7 and 11.

For at least the reasons discussed above, claims 7 and 11 would not have been rendered obvious by Yamamoto, Kahlenberg and Noda. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

D. Joulin and Blount

The Office Action rejects claims 7, 9-11, 13 and 14 under 35 U.S.C. §103(a) over U.S. Patent No. 6,585,796 to Joulin et al. (hereinafter "Joulin") in view of U.S. Patent No. 4,824,807 to Blount (hereinafter "Blount"). By this Amendment, claims 10 and 14 are canceled, rendering their rejection moot. As to the remaining claims, Applicants respectfully traverse the rejection.

First, as discussed above, independent claim 7 is a method claim that requires the adding of KOH or NaOH as a raw material, rather than the "*in-situ*" formation of KOH or NaOH as may occur in Joulin after the addition of a simple oxide. Next, Joulin teaches the use of significantly more alkaline metal, which is unfavorable in independent claims 7 and 11.

It appears that the Office Action may be taking Official Notice that an alkali metal source of KOH or NaOH, as recited in claims 7 and 11, will behave identically as the simple oxides of Joulin if replaced. To the extent the assertions in the Office Action are based on official notice, such bases are not properly established and are thus improper.

With respect to Official Notice, the MPEP states that "such rejections should be judiciously applied" (see MPEP § 2144.03). "Official notice without documentary evidence to support an [E]xaminer's conclusion is permissible only in some circumstances" (see MPEP § 2144.03(A)). "It would not be appropriate for the [E]xaminer to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known" (see Id., emphasis added).

Here, the application of Official Notice is not established and, thus, is improper at least because Joulin discloses that 18-15% of a simple oxide achieves ideal results, whereas the present specification discloses that when alkaline metal exceeds the range recited in claims 7 and 11, as in comparative example 3 (14% KOH), the alkali silicate glass formed by the alkaline metal fills in pores of the calcinated body, and porosity unfavorably decreases. See specification, page 11, line 23 - page 12, line 2. Thus, it appears simple oxides will not behave identically as KOH or NaOH.

Furthermore, the Office Action fails to point to any portion of any of the applied reference that indicates the amount of KOH or NaOH is a result effective variable.

Thus, Blount does not cure the deficiencies of Joulin because the reference relates to a process for production of flexible glass. It does not provide any reason for one of ordinary skill in the art to use clay that "contains 0.01-10 parts by mass of the alkaline metal source," as recited in claims 7 and 11, with a reasonable expectation of success of arriving at the methods of claims 7 and 11. See MPEP §§2143(E) and 2143.02.

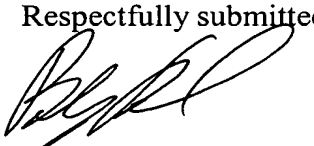
Thus, claims 7 and 11 would not have been rendered obvious by Joulin in view of Blount. Claims 9 and 13 depend from claims 7 and 11, respectively, and thus, also would not have been rendered obvious by Joulin and Blount. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

V. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachments:
Petition for Extension of Time
Request for Continued Examination

Date: September 3, 2008

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